

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: THOMAS ET AL. Group Art Unit:  
 Application No.: 10/4401 Examiner:  
 Date Filed: 11/13/01 Batch No.:  
 Title: METHOD AND DEVICE FOR MULTIPLE INPUT/MULTIPLE OUTPUT  
 TRANSMIT AND RECEIVE WEIGHTS FOR EQUAL-RATE DATA  
 STREAMS

10/4401  
 11/13/01  
 JC986 U.S. PRO  
 09/990704  
 11/13/01

## CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS EXPRESS MAIL IN AN ENVELOPE ADDRESSED TO:  
 ASSISTANT COMMISSIONER FOR PATENTS

WASHINGTON, D.C. 20231, ON: 11/13/01

Date of Deposit

MOTOROLA INC.

Name of Assignee

*Karen Kar*  
 SIGNATURE

11/13/01

DATE

## INFORMATION DISCLOSURE STATEMENT (IDS)

Assistant Commissioner For Patents  
 Washington, D.C. 20231

SIR:

In accordance with 37 C.F.R. §1.56 and in compliance with 37 C.F.R. §§1.97 and 1.98, the references listed on attached Form PTO/SB/08 and/or subsequently identified herein, are being submitted herewith for consideration by the United States Patent and Trademark Office.

I. COPIES

- a.  A legible copy of (i) each U.S. and foreign patents; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed, is included herewith.
- b.  Any patents, publications or other information which are listed on PTO/SB/08 which are not enclosed herewith were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. §120:

U.S. Serial Number

U.S. Filing Date

II. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

- a.  Except as may be indicated below in (b) of this section, all of the patents, publications or other information are in the English language (concise explanation not required).
- b.  A concise explanation of the relevance of all patents, publications or other information listed that is not in the English language is as follows:
- c.  The following additional information is provided for the Examiner's consideration:

III.  CROSS REFERENCE TO RELATED APPLICATION(S)

The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this (these) applications to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. §122.

Serial No.

Filing Date

Art Unit

FEESIV.  THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(b): (check one box)

- a.  within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d) (37 C.F.R. §1.97(b)(1)). No fee or statement is required.
- b.  within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. §1.97(b)(2)). No fee or statement is required.
- c.  before the mailing date of a first Office Action on the merits (37 C.F.R. §1.97(b)(3)). No fee or statement is required.
- d.  before the mailing date of a first Office Action after the filing of a request for continued examination under § 1.114 (37 C.F.R. § 1.97(b)(4)). No fee or statement is required.

V.  THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(c): (check one box)

before the mailing date of any of a Final Office Action under 37 C.F.R. §1.113, a Notice of Allowance under 37 C.F.R. §1.311, or an action that otherwise closes prosecution in the application (See 37 C.F.R. §1.97(c)).

- a.  No statement; therefore, charge deposit account 13-4772 the fee set forth in 37 C.F.R. §1.17(p).
- b.  See the statement below. No fee is required.

VI.  THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(d):

on or before payment of the issue fee and is accompanied by the following:

- 1) a statement under 37 C.F.R. §1.97(e) as provided below; and
- 2) charge deposit account 13-4772 the petition fee set forth in §1.17(p).

VII.  STATEMENT UNDER 37 C.F.R. §1.97(e) (check only one box, if applicable)

The undersigned hereby states that

- a.  each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of IDS; or
- b.  no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application, and to knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement, or
- c.  some of the items of information contained in the IDS were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application or, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement.

VIII. PAYMENT OF FEES

- A check in the amount of \_\_\_\_\_ is enclosed for the above-identified fee(s).
- Please charge Deposit Account No. 13-4772 in the amount of \$180.00 for the above-indicated fee(s).
- If Applicant has overlooked any additional fees, or if any overpayment has been made, the Commissioner is hereby authorized to credit or debit Deposit Account 13-4772.
- Two Copies of this paper are attached for Deposit Account charges and debits.

It is Applicant(s)' opinion that the claims presently on file patently distinguish the present invention from each of these references. The above references are being cited only in the interests of candor and without any admission that they constitute statutory prior art or contain matter which anticipates the invention or which would render the same obvious, either singly or in a combination, to a person of ordinary skill in the art.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 13-4772.

Respectfully submitted,  
THOMAS ET AL.



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DANIEL W. JUFFERNBRUCH  
ATTORNEY for Applicant(s)  
Reg. No. 33,122  
Tel. 847-538-3129

MOTOROLA, INC.  
Customer Number 22917

Enclosures:  PTO/SB/08  
 References  
 Foreign Search Report  
 Other:

Please type a plus sign (+) inside this box. FORM PTO/SB/08

<p>Substitute for form 1449A/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p>(use as many sheets as necessary)</p>				<i>Complete if Known</i>	
				Application Number	
				Filing Date	
				First Named Inventor	TIMOTHY A. THOMAS
				Group Art Unit	
				Examiner Name	
Sheet	1	of		Attorney Docket Number	CR00274M

**U. S. PATENT DOCUMENTS**

## FOREIGN PATENT DOCUMENTS

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation, if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English Language Translation is attached.

+  
Please type a plus sign (+) inside this box. FORM PTO/SB/08

<p>Substitute for form 1449A/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p><i>(use as many sheets as necessary)</i></p>			<i>Complete if Known</i>	
			Application Number	
			Filing Date	
			First Named Inventor	TIMOTHY A. THOMAS
			Group Art Unit	
			Examiner Name	
Sheet	2	of	Attorney Docket Number	CR00274M

<b>OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS</b>				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
		H. Sampath and A. Paulraj, "Joint Transmit and Receive Optimization for High Data Rate Wireless Communication Using Multiple Antennas," Proc. of Assilomar 1999, Monterey, California, November, 1999.		
		G. Raleigh and J. Cioffi, "Spatio-Temporal Coding for Wireless Communication," IEEE Transactions on Communications, vol. 46, no. 3, pp. 357-366, March 1998.		

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation, if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.